Notice No.8

Rules and Regulations for the Classification of Ships, July 2022

The status of this Rule set is amended as shown and is now to be read in conjunction with this and prior Notices. Any corrigenda included in the Notice are effective immediately.

Please note that corrigenda amends to paragraphs, Tables and Figures are not shown in their entirety.

Issue date: June 2023

Amendments to	Adoption Date	Applicable Date
Part 3, Chapter 1, Section 9	1 July 2023	1 July 2023
Part 3, Chapter 10, Section 5	1 July 2023	1 July 2023
Part 3, Chapter 14, Sections 1 & 7	1 July 2023	1 July 2023
Part 4, Chapter 1, Section 9	1 July 2023	1 July 2023
Part 4, Chapter 3, Section 9	1 July 2023	1 July 2023

Part 3, Chapter 1
General

■ *Section 9*
Procedures for testing tanks and tight boundaries

9.2 Application

9.2.6 Cable transits penetrating watertight and tank boundaries are to be prototype tested in accordance with *Pt 4, Ch 1, 9.2 Watertight and deep tank bulkheads 9.2.6* and *Pt 4, Ch 1, 9.2 Watertight and deep tank bulkheads 9.2.7* as appropriate.

Existing paragraph 9.2.6 has been renumbered 9.2.7.

Part 3, Chapter 10
Welding and Structural Details

■ *Section 5*
Structural details

5.2 Arrangements at intersections of continuous secondary and primary members

(Part only shown)

Table 10.5.3 Permissible stresses

Item		Direct stress, in N/mm^2 (*see* Notes 1 and 2)		Shear stress, in N/mm^2 (*see* Note 1)	
		Oil tankers	Other ship types for which oil tanker requirements are not applicable	Oil tankers and ship types where primary member stiffener unconnected	Other ship types for which oil tanker requirements are not applicable
Primary member web plate stiffener within distance *a* of end, *see Figure 10.5.3 Cut-outs and connections*		147,2	157 *See* Note 4	—	—
Lug or collar plate and weld	Single	—	—	68,6	98,1 *See* Note 4
	Double	—	—	83,4 *See* Note 3	
Note 4. Permissible stress may be increased where the internal pressure head, as derived from *4.28.1.1* in the *Rules and Regulations for the Construction and Classification of Ships for the Carriage of Liquefied Gases in Bulk*, is considered for the total load calculation. The permissible direct stress and shear stress can be divided by *k*, *see Pt 3, Ch 2, 1.2 Steel 1.2.3*, i.e. $^{157}/_{k}$ N/mm^2 and $^{98.1}/_{k}$ N/mm^2, respectively.					

Part 3, Chapter 14
Cargo Securing Arrangements

■ *Section 1*
General

1.2 Classification notations and descriptive notes

1.2.10 Ships with container securing software provided on board and certified by another IACS member are eligible to be assigned the descriptive note **CSS**.

1.5 Plans and information required

(Part only shown)

1.5.2 For container securing arrangements, the following plans and information are to be submitted:

k. Design values of the following ship parameters ~~for the container load departure and arrival conditions~~:

  i. ~~Moulded~~Summer load waterline draught ($T_{\cancel{c}\mathrm{SL}}$)
  ii. Transverse metacentric height (*GM*), *see Pt 3, Ch 14, 1.5 Plans and information required 1.5.3*.

(Part only shown)

1.5.3 The ~~Cargo Securing~~ Container Securing Arrangements Manual is to include the following information:

b. For vessels without an approved onboard lashing program, representative lashing calculations based on ~~one design~~ two of the following GM values~~ as follows~~:

  i. A lower design GM value of 2,5 per cent of the breadth B.
  ii. An upper design GM value of 7,5 per cent of B for ships with a breadth less than 52 m and 10 per cent of B for ships where B >= 52 m.
  iii. Actual GM values of the ship in the container loaded condition from the approved Trim and Stability Booklet or Loading Manual when the actual design GM values are outside the range specified in i) and ii).

c. For vessels with notation **BoxMax(V)**, **BoxMax(V,W)**, **BoxMax(V,W,L)** or **BoxMax(M)** representative calculations based on applicable weather reduction factors are to be included in the ~~Cargo Securing~~ Container Securing Arrangements Manual.

1.5.4 Where containers of types other than ISO containers are to be incorporated in the stowage arrangement, the ~~Cargo~~ Container Securing Arrangements Manual is to indicate clearly the locations where these containers are stowed. The manual is also to indicate the container weights and required securing arrangements for stacks composed entirely of ISO Standard containers.

1.7 Symbols and definitions

(Part only shown)

1.7.1 The following definitions are applicable to this Chapter, except where otherwise stated:

T_c = moulded draught in the container load condition, in metres. For the purpose of container stowage calculation, T_{SL} is to be taken if T_c is not available.

T_{SL} = summer load waterline draught, in metres

Part 3, Chapter 14
Cargo Securing Arrangements

■ *Section 7*
Container securing arrangements for stowage using cell guides

7.3 Carriage of 20 ft containers in 40 ft cell guides in holds

Table 14.7.2 Maximum container weights, W_h 20 ft containers stowed in 40 ft cell guides with overstow, diagonal stacking cone arrangement

Lowest tier transverse acceleration (= a_y/g), *see Pt 3, Ch 14, 8.2 Ship motion, wind and green sea forces acting on containers 8.2.5*	Maximum homogeneous container weights, in tonnes (number of 20 ft containers)							
	4 tiers and fewer	5 tiers	6 tiers	7 tiers	8 tiers	9 tiers	10 tiers	11 tiers
0,20	30,5	30,5	30,5	~~29,2~~ 30,5	~~28,2~~ 30,5	~~24,8~~ 27,1	~~22,6~~ 23,8	~~21,0~~ 21,5
0,21	30,5	30,5	30,5	~~29,2~~ 30,5	~~28,2~~ 30,5	~~24,8~~ 27,1	~~22,5~~ 23,7	~~20,7~~ 21,2
0,22	30,5	30,5	30,5	~~29,2~~ 30,5	~~28,2~~ 30,5	~~24,8~~ 27,1	~~22,4~~ 23,6	~~20,5~~ 21,0
0,23	30,5	30,5	30,5	~~29,2~~ 30,5	~~28,2~~ 30,5	~~24,8~~ 27,1	~~22,3~~ 23,5	~~20,3~~ 20,8

0,24	30,5	30,5	30,5	~~29,2~~ 30,5	~~28,2~~ 30,5	~~24,8~~ 27,1	~~22,1~~ 23,3	~~20,0~~ 20,5
0,25	30,5	30,5	30,5	~~29,2~~ 30,5	~~28,2~~ 30,5	~~24,8~~ 27,1	~~22,0~~ 23.2	~~19,8~~ 20,3
0,26	30,5	30,5	30,5	~~29,2~~ 30,5	~~28,2~~ 30,5	~~24,7~~ 27,0	~~21,9~~ 23,1	~~19,6~~ 20,1
0,27	30,5	30,5	30,5	~~29,1~~ 30,5	~~28,0~~ 30,5	~~24,6~~ 26,9	~~21,8~~ 23,0	~~19,6~~ 20,1
0,28	30,5	30,5	30,5	~~29,0~~ 30,5	~~27,8~~ 30,5	~~24,4~~ 26,7	~~21,7~~ 22,9	~~19,5~~ 20,0
0,29	30,5	30,5	30,5	~~28,9~~ 30,5	~~27,7~~ 30,5	~~24,3~~ 26,6	~~21,6~~ 22,8	~~19,4~~ 19,9
0,30	30,5	30,5	30,5	~~28,8~~ 30,5	~~27,5~~ 30,5	~~24,2~~ 26.5	~~21,5~~ 22,7	~~19,3~~ 19,8
0,31	30,5	30,5	30,5	~~28,7~~ 30,5	~~27,4~~ 30.1	~~24,0~~ 26.4	~~21,4~~ 22,7	~~19,2~~ 19.8
0,32	30,5	30,5	30,5	~~28,6~~ 30.5	~~27,2~~ 29.2	~~23,9~~ 26.3	~~21,2~~ 22,6	~~19,1~~ 19,7
0,33	30,5	30,5	30,5	~~28,6~~ 30,5	~~27,1~~ 28,3	~~23,8~~ 25.8	~~21,1~~ 22.5	~~19,0~~ 19.6
0,34	30,5	30,5	30,5	~~28,5~~ 30,4	~~27,0~~ 27.5	~~23,7~~ 25,0	~~21,0~~ 22.5	~~18,8~~ 19,6
0,35	30,5	30,5	30,5	~~28,2~~ 29,6	~~26,5~~ 26,7	~~23,4~~ 24,3	~~20,9~~ 22,4	~~18,9~~ 19,5
0,36	30,5	30,5	30,5	~~27,9~~ 28,7	26,0	~~23,1~~ 23,6	~~20,8~~ 21,7	~~18,9~~ 19,4
0,37	30,5	30,5	30,5	27,7	25,5	~~22,8~~ 23,0	~~20,6~~ 21,2	~~18,8~~ 19,4
0,38	30,5	30,5	30,5	27,4	25,1	22,4	~~20,2~~ 20,6	~~18,4~~ 19,1
0,39	30,5	30,5	30,5	27,2	24,7	22,0	~~19,8~~ 20,1	~~18,1~~ 18,6
0,40	30,5	30,5	30,5	26,9	24,3	21,6	~~19,4~~ 19,8	~~17,7~~ 18,2
0,41	30,5	30,5	30,5	26,7	23,9	21,2	~~19,1~~ 19,3	~~17,4~~ 17.8
0,42	30,5	30,5	30,5	26,5	23,6	20,9	18,8	~~17,0~~ 17,4
0,43	30,5	30,5	30,5	26,4	23,3	20,6	18,4	~~16,7~~ 17.0
0,44	30,5	30,5	30,5	26,2	23,0	20,3	18,1	~~16,4~~ 16,7
0,45	30,5	30,5	30,5	26,1	22,8	20,0	17,9	~~16,1~~ 16,3
0,46	30,5	30,5	29,8	25,7	22,6	19,8	17,6	~~15,8~~ 15,9
0,47	30,5	30,5	29,0	25,2	22,3	19,5	17,2	~~15,3~~ 15,6

0,48	30,5	30,5	28,1	24,4	21,6	18,9	16,7	~~14,9~~ 15.3
0,49	30,5	30,5	27,2	23,6	20,9	18,3	16,3	~~14,7~~ 14.9
0,50	30,5	30,5	26,4	22,8	20,1	17,8	16,0	14,5
0,51	30,5	30,4	25,5	22,0	19,4	17,3	15,7	14,3
0,52	30,5	29,3	24,6	21,2	18,7	16,9	15,4	14,3
0,53	30,5	28,3	23,7	20,4	18,0	16,5	15,3	14,3
0,54	30,5	27,2	22,8	19,6	17,2	16,1	15,1	14,3
0,55	30,5	26,2	21,9	18,8	16,5	15,6	14,9	14,4

Note 1. Linear interpolation is to be used to determine intermediate values.

Note 2.40 ft overstow containers not included in the number of tiers

Note 3. Maximum container weights for transverse acceleration and number of tiers outside of those presented will be specially considered.

Note 4. The maximum container weight should not exceed the rated weight of the container.

Note 5. Where the homogeneous container weight (W_{h}) derived from the table is lower than the rated weight of the container, the maximum homogeneous weight is to be corrected to account for the height of the containers used, as follows:

~~**Note**~~ $W_{\mathrm{hc}} = W_{\mathrm{h}} W_{\mathrm{ac}}$

Where:

$W_{\mathrm{ac}} = \frac{2{,}591}{c_{\mathrm{a}}}$ which is not to be taken greater than 1

c_{a} is the average height of the 20 ft containers

Part 4, Chapter 1
General Cargo Ships

■ *Section 9*
Bulkheads

9.2 Watertight and deep tank bulkheads

9.2.6 Cable transits for watertight boundaries require prototype testing to confirm their structural integrity and watertightness. The prototype test pressure is to be 1,5 times the design head, h_4, at the proposed location, but no less than 1 bar. They are to be tested from both sides for a period of at least 30 minutes without leakage and followed by further 30 minutes when the leakage if any shall not exceed a total of 1 litre. For the design head, h_4, refer to *Table 1.9.1 Watertight and deep tank bulkhead scantlings*.

9.2.7 Cable transits are generally not to be used at tank boundaries. Where they are proposed to be used at tank boundaries, they require prototype testing to confirm their structural integrity and watertightness. The prototype test pressure is to be at least 2,5 times the design head, h_4, at the proposed location, but no less than 1 bar, For the design head, h_4, refer to *Table 1.9.1 Watertight and deep tank bulkhead scantlings*. Consideration is also to be given to an additional dynamic amplification factor, where applicable, *see Pt 3, Ch 3, 5.4 Design pressure for partially filled tanks*. Cable transits may also need to be tested from both sides where the bulkhead/deck forms the boundary of two tanks based upon the greater design head. The duration of these tests shall be no less than 60 minutes without leakage.

Part 4, Chapter 3
Tugs

■ *Section 9*
Escort operation, performance numeral and trials

9.2 Towing arrangements

9.2.1 In the case of escort tugs, the ~~The~~ specified breaking strength of the towline is to be ~~at least 2,5 x maximum design towline force.~~ no less than the design load specified in *Table 3.7.1 Tug towing equipment design loads*. In addition to the minimum towline strength requirements specified, the loss of towline strength due to bend radius (such as at the fairleads used to limit the sweep), wear and tear etc is to be accounted for as appropriate for the towing arrangement and in consultation with the towline manufacturer.

9.4 Computational fluid dynamics predicted performance

9.4.3 A computational fluid dynamics report is to be submitted to LR for consideration. The performance prediction simulating the trials detailed in *Pt 4, Ch 3, 9.3 Performance numeral and trials* is to be carried out in accordance with a standard agreed with LR. Such standards include LR’s ShipRight Procedure titled *Guidelines for CFD Escort Tug Performance*.

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